Could We Have Covered More People At Less Cost?  
Technically, Yes; Politically, Probably Not

ABSTRACT The process by which Congress considers legislation rarely affords the public an opportunity to examine how the outcomes might change if components of the law were structured differently. We evaluated how the recently enacted health reform law performed relative to a large number of alternative designs on measures of effectiveness and efficiency. We found that only a few different approaches would produce both more newly insured people and a lower cost to the government. However, these are characterized by design options that seemed political untenable, such as higher penalties, lower subsidies, or less generous Medicaid expansion.

In late March 2010, President Barack Obama signed into law both the Patient Protection and Affordable Care Act and a companion bill making some technical changes. We estimate that twenty-eight million people will be newly insured by 2016 under the legislation. The law builds on the existing structure of health insurance in the United States, which is a combination of private and public sources of coverage.

Provisions of the legislation will expand eligibility for the Medicaid program, provide incentives for employers to offer and subsidize insurance coverage, require individuals to obtain coverage or pay a penalty, and make available refundable and "advanceable" tax credits to subsidize the costs of purchasing insurance for those with lower incomes. The law also modifies insurance regulations to make it easier and more affordable for people to obtain insurance. It creates new markets, called exchanges, in which people without access to government programs such as Medicaid and Medicare or employer-sponsored insurance can obtain insurance.

The Congressional Budget Office (CBO), the official scorekeeper for Congress, evaluated the number of newly insured people and the cost to the federal government that each major bill—and some substantial amendments—would produce.\textsuperscript{1,2} The CBO is required only to evaluate legislation as structured by a committee with jurisdiction over the different elements of the health care system. It does not typically examine how results might change if the proposed policy options were structured differently. Thus, the public has little objective information about whether the final law represents the best combination of options to increase insurance coverage at low public cost.

To address this question, we defined the “policy frontier” produced by different combinations of Medicaid eligibility thresholds, design of the employer and individual mandates, regulatory changes, and plans available in the new insurance exchanges. We evaluated the effectiveness and efficiency of each policy combination, including the recently enacted law.

Study Methods
The RAND COMPARE microsimulation model, which we used in this study, has been described in greater detail elsewhere.\textsuperscript{3} Here we provide a brief overview to set the context for our analysis and findings.

We constructed a data set that represents the U.S. population and some of the key entities involved in the private and public markets for
health insurance, including individuals, households, employers, and insurance companies. Based on economic theory and empirical results, we assigned a set of behavioral rules to these entities that tell them how to respond to each other’s decisions regarding coverage and premiums. This creates an iterative process that eventually arrives at a new equilibrium.

**ANALYSES** We used what is called a utility maximization framework for our analyses of how consumers and employers would behave. This contrasts with regression or elasticity frameworks used by other groups. In utility maximization, the rules reflect differences in the cost and value of health insurance for subgroups in the population. For example, people who are older and in poorer health are assigned a higher value for health insurance in general than people who are younger and healthier. An advantage of utility maximization is that it is better suited than regressions or elasticities to model policies that contain novel elements such as an insurance exchange or individual mandate.

To estimate how the U.S. population would respond to a change in health policy, we “perturbed” the status quo by introducing the insurance expansion choices offered in the Patient Protection and Affordable Care Act. Individuals and households in the data set responded to the availability of these new choices and either changed their current status—for example, from being uninsured to enrolling in a subsidized plan on the exchange—or stayed with their current choice. For purposes of the current analysis, we assumed that the new equilibrium is reached in 2016. An Appendix describes these choices and their determinants in somewhat greater detail.

**ASSUMPTIONS** We summarize here our key assumptions. Although the law allows for state, regional, or interstate exchanges, we modeled a single national insurance exchange that offered four plans distinguished by the average percentage of allowed charges for health services paid by the insurer, known as “actuarial value”: platinum (actuarial value 90 percent), gold (actuarial value 80 percent), silver (actuarial value 70 percent), and bronze (actuarial value 60 percent). Administrative costs for the exchange plans were set at 12 percent.

Premiums in the exchange varied only by age and family size. People who had at least one offer of employer-sponsored coverage or who were eligible for Medicaid were not eligible for subsidies. We used a simple risk-adjustment strategy under which payments were made across exchange plans so that the ratio of the premiums was equal to the ratio of their actuarial values. In other words, the premiums for plans offered through the exchange reflect the plans’ generosity, not enrollees’ risk composition.

**EXPLORE THE UNIVERSE OF POLICY OPTIONS** The microsimulation model allowed us to examine a large number of alternative scenarios for expanding insurance coverage by changing specific parameters that define the policy. The parameters we considered are shown in Exhibit 1. The combination of policy parameters that we varied produced 2,016 different scenarios.

We evaluated the effectiveness (that is, number of newly insured people), government cost (that is, new spending on coverage expansions), and efficiency (that is, government spending per newly insured person) of each scenario. We also considered whether newly insured consumers would be better or worse off financially. These outcomes reflect the major trade-offs that were under discussion during consideration of the bills.

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**EXHIBIT 1**

**Alternative Approaches To Coverage Expansion Under Health Reform**

<table>
<thead>
<tr>
<th>Design choice</th>
<th>Parameters evaluated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Income eligibility for Medicaid</td>
<td>100%, 133% (base case), 190%, 250% of the federal poverty level</td>
</tr>
<tr>
<td>Firm size subject to coverage requirements</td>
<td>Firms with more than 10, 25, 50 (base case) full-time employees</td>
</tr>
<tr>
<td>Firm penalized for not meeting requirements</td>
<td>Fixed dollar amount per employee $1,000, $2,000 (base case), $3,000</td>
</tr>
<tr>
<td>Individual-mandate penalties for noncompliance</td>
<td>Fixed dollar amount $400, $695 (base case), $900, $1,200, or percentage of the difference between adjusted gross income and the tax filing threshold 1% 2.5%, 4%</td>
</tr>
<tr>
<td>Subsidies for purchasing insurance</td>
<td>The difference between the premium for the silver plan and a fraction of the household income that increases with income (base case); in 3 additional scenarios we constructed subsidies that were half, 1.5, and twice that of the base</td>
</tr>
<tr>
<td>Age-related rate-band restrictions for premium differentials in exchange plans</td>
<td>2:1, 3:1 (base case)</td>
</tr>
</tbody>
</table>

**SOURCE** Authors’ analysis. **NOTES** Monetary amounts are expressed in 2014 dollars. Base case refers to the new law.
Study Results

We plotted the 2,016 scenarios on a graph to illustrate the trade-off between the number of people who are newly insured after the policy change, represented by the horizontal axis, and the annual cost to the government of the policy options, the vertical axis (Exhibit 2). To simplify the graph, we drew the boundary that contained all of the combinations of policy parameters, which we refer to as the policy frontier.

Policies outside the frontier correspond to one or more parameters that are either more than double or less than half the values of the parameters that have been considered by legislators. Even though these values are theoretically possible, they strike us as politically infeasible for various reasons, which we elaborate on below.

The solid red square marks the new-law scenario (base case). We divided the policy frontier into four territories, or quadrants, defined by our estimate of the number of newly insured people—the horizontal line—and the annual cost to the government—the vertical line.

Policies in the territory labeled 1 would produce results that are better than the new law—namely, more newly insured people at lower cost to the government. Note that the size of this territory is small, which means that only a few policy scenarios would produce better results, and these would represent only small improvements.

Policies in the territory labeled 2 would produce unequivocally worse results—that is, fewer newly insured people at a higher government cost. Policies in 3A and 3B would produce more newly insured people, but at a higher government cost than under the new law. Policies in 4A and 4B would produce fewer newly insured people at a lower government cost.

EXHIBIT 2

The Health Reform Policy Frontier

SOURCE Authors’ analysis. NOTES The four territories (quadrants) are defined by the two axes (number newly insured and government cost) that are centered on our estimates of the effect of the new law. Monetary amounts are expressed in 2014 dollars. The blue line represents a boundary that contains all of the combinations of policy parameters in our modeling (the policy frontier). The solid red square represents the effect of the new law, whereby 28.3 million people gain insurance at a cost to the government of $150.4 billion. In the quadrant labeled 1, results are better than those achieved under the new law (more people insured at less cost). In quadrant 2, they are worse (fewer people insured at more cost). The dotted red line divides territories 3 and 4 into subterritories defined by the government cost per newly insured person. Policies in areas 3A and 3B would produce more newly insured people, but at a higher cost to the government. Policies in 4A and 4B would produce fewer insured people at a lower cost to the government. Additional explanations are available in the text.
The dashed line that runs through the new law and divides territories 3 and 4 into subterritories A and B is defined by the government cost per newly insured person—a measure of the efficiency of the policy. The territories above the newly insured person A and B is defined by the government cost per newly insured person A and B. The territories below the newly insured person A and B is defined by the government cost per newly insured person A and B. The territories above the dashed line (2, 3A, and 4A) contain policies that are less efficient than the new law, whereas the territories below the dashed line (1, 3B, and 4B) contain policies that are more efficient.

The key drivers of where a policy scenario falls inside the frontier are the size and design of the individual mandate penalty and the eligibility threshold for Medicaid. Penalties that generally produce less favorable results are those that are lower than $695 per person, or that are structured as they were in the reform bill that passed the House in November 2009—which was the percentage of the difference between the tax filing threshold and the adjusted gross income of the household.

To produce more newly insured people at the same cost to the government (territory 1), the individual-mandate penalty would have to be much higher. To increase the number of newly insured people by 10 percent, the penalty would have to increase 47 percent. A penalty of $1,200 per person would result in an additional four million newly insured people.

Similarly, Medicaid eligibility thresholds above the new-law level—133 percent of the federal poverty level—produce less favorable results. To produce the same number of newly insured people at a lower cost to the government, the Medicaid threshold would have to be set at 100 percent of the federal poverty level, which would reduce government spending by $12 billion annually. Decreasing the generosity of the subsidy by 50 percent and increasing the penalty to $1,200 would reduce government spending an additional $8 billion annually.

Other policy parameters—subsidy levels and rate bands—do not independently place a policy in any specific territory. Their effects are highly dependent on the value of the individual-mandate penalties and Medicaid eligibility thresholds.

Finally, we examined whether the law made newly insured consumers better or worse off financially. We estimated the difference between the premium cost of obtaining insurance and the likelihood of and cost associated with having very high health expenditures relative to income (not shown in Exhibit 2).

On average, all of the newly insured people experienced a net positive financial benefit. We found that policy scenarios with the worst efficiency provided the highest net benefit to the newly insured—up to $1,400 per person—while the most efficient policies had the lowest net benefits—about $800 per person. This suggests that the policy scenarios can be evaluated simply on efficiency and effectiveness metrics without concern that some options will negatively affect consumers.

**Discussion**

Policy changes are rarely debated on strictly analytic grounds. Nonetheless, analysis can offer insights into the outcomes of different choices and can more explicitly define aspects of changes that are worth arguing about.

We find that the parameters that define a policy can be divided in three groups. The first group contains parameters for which we can identify preferred values—that is, those that insure more people at a lower cost to the government.

The individual penalty and the Medicaid eligibility threshold belong to this group. Higher penalties and lower thresholds usually lead to a greater number of newly insured people at a relatively lower government cost. In these options, the government primarily pays for insuring people who were uninsured. For example, the individual-mandate penalty specifically targets the uninsured, some of whom can avoid the penalty by obtaining employer-sponsored insurance.

The Medicaid eligibility threshold is less targeted on the population of interest. As the threshold increases, more people switch from employer-sponsored insurance to Medicaid—a phenomenon known as crowd-out. High rates of crowd-out are undesirable because they increase the cost of coverage expansion to the government without making a comparable reduction in the number of uninsured people. Therefore, thresholds at 100 percent and 133 percent of the federal poverty level are preferred to higher thresholds.

The second group contains options that have an effect on the outcomes but for which there are no consistently preferred values. Higher subsidies result in more people obtaining insurance, but they have a higher government cost. Subsidies are less efficient than penalties because some people who have already obtained unsubsidized insurance in the nongroup market will start using the subsidies.

Rate banding, or setting limits on the degree to which premiums can vary for certain groups, also belongs to the second group of parameters. Although tighter rate banding may lead to somewhat fewer people being insured, this effect can be easily compensated for by a slight increase in the individual penalty.

The third group consists of options that have little effect on the outcomes of interest. The
employer mandate belongs in this third group. In our modeling, we found that the individual mandate causes employees to increase their demand for insurance, which in turn causes more employers to offer insurance. This effect produces more new offers of insurance than occur in response to penalties imposed on employers that do not offer insurance. Employer-sponsored insurance is less costly to the government than either Medicaid or subsidies to purchase insurance. Thus, policies that encourage more employers to participate are preferred.

Enacted health reform legislation can be improved. For example, the number of newly insured people could be increased by four million without increasing government cost, or the government cost could be reduced by $20 billion a year without decreasing the number of newly insured people. However, achieving these results would require enacting policy options that would place a higher burden on the lowest-income segment of the population. These would include less generous subsidies, higher individual penalties, and a less generous Medicaid expansion. All of these strike us as politically difficult, if not untenable. Thus, on balance, the new law appears to have landed on a distinctive plain of the policy frontier, where costs and coverage levels achieved were reasonable and passage of the law was politically feasible.

This work was funded by pooled contributions from a broad range of individuals, corporations, corporate foundations, philanthropic foundations, and health system stakeholders. COMPARE funders include AARP; Abraxis BioScience; Aetna Foundation; Alcoa; Amgen Foundation; Blue Cross Blue Shield of Massachusetts; Business Roundtable; California HealthCare Foundation; Funari Family Foundation; General Motors Foundation; Johnson & Johnson; Robert Wood Johnson Foundation; Suzanne Nora Johnson and David G. Johnson Foundation; Karen Kate, Knapp Foundation, Charles N. Martin Jr.; Martin Foundation; Pacific Business Group on Health; Pfizer; RAND Corporate Endowment; RAND Health Board, designated gifts from individual members; John J. Rydzewski; Leonard D. Schaeffer, UnitedHealth Foundation, and WellPoint Foundation.

NOTES


4 The data we used were from the Survey of Income and Program Participation (SIPP), the Medical Expenditure Panel Survey (MEPS), and the Kaiser Family Foundation/Health Research and Educational Trust (HRET) annual survey of employer-sponsored insurance.


9 The factors included in our utility maximization model include current insurance status, age, health status, income, employment status, and firm size (if employed).

10 The Online Appendix is available by clicking on the Online Appendix link in the box to the right of the article online.

11 We took a conservative approach and defined government spending as the sum of the additional Medicaid spending and the cost of subsidies. We did not subtract the revenues that might be collected from the individual and employer mandate penalties or the savings associated with reducing uncompensated care, because they are estimated with considerable uncertainty.

12 We developed a metric to quantify the benefit to the newly insured from reduced financial risk, reduced out-of-pocket spending, and increased health care services received as compared to the premium cost paid. We assigned to each individual a disutility for risk that is proportional to the expected spread of the distribution of out-of-pocket expenditures: the higher the spread, the higher the probability that a person would incur a catastrophic expenditure. The coefficient of proportionality is the so-called coefficient of risk aversion, which we assumed to be constant through the whole population. In calculating the portion of benefit due to increased health care services received (one of the three factors that go into the utility calculation), we used results from the RAND Health Insurance Experiment to quantify how much value, in dollars, people attribute to the additional health care services. This value is about one-third of the expected medical expenditures on that factor.
